

## **EXHIBIT**

### **3RD ADJACENT CHANNEL INTERFERENCE WAIVER REQUEST**

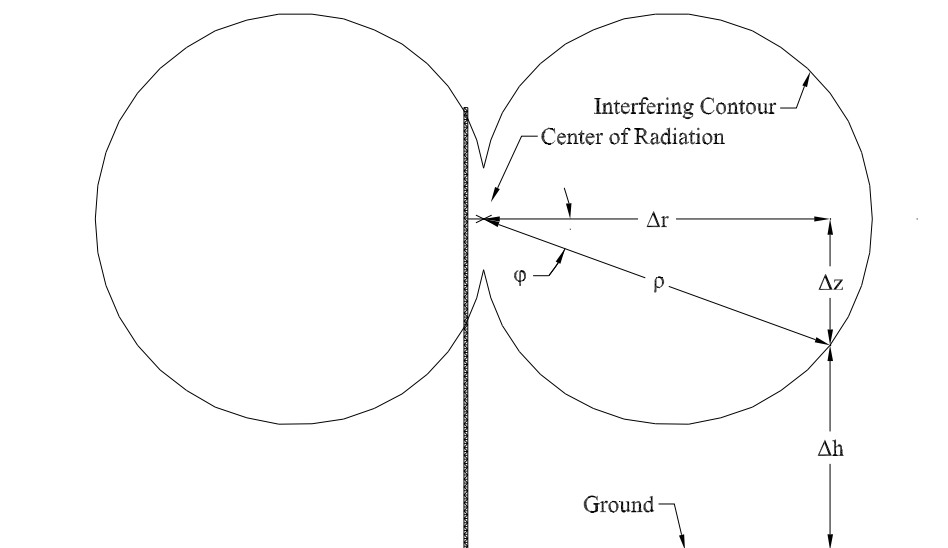
The proposed facilities are not compliant with the 3rd adjacent channel spacing requirements of in relation to at least one full-power FM facility, application or construction permit. As is shown by the analyses presented within this exhibit, no population is located within any region of interference caused by the proposed facilities to the existing stations either because the region does not extend far enough radially to encounter a populated area, exists entirely sufficiently above the ground to avoid populated areas, or a combination of both. Since no population will be subjected to interference, a waiver of the 3rd adjacent channel spacing requirements is requested.

## INTERFERENCE DETERMINATION PROCEDURE

The following procedure was used to predict the region of interference caused to any existing 3rd adjacent station by the proposed facilities:

1. The distance and bearing from the existing transmitter to the proposed transmitter was determined.
2. The height above average terrain of the existing station's antenna in the direction of the proposed transmitter was determined.
3. The F(50,50) curves were used to determine the existing station's protected field strength at the proposed transmitter site.
4. A 40 dB protection factor was added to the existing station's protected field to determine the maximum allowed proposed facilities' interfering field on a second adjacent channel.
5. For a particular elevation angle,  $\phi$ , the proposed facilities' maximum ERP (250.0 W) was scaled by the square of the antenna voltage gain to determine the ERP at this angle. Antenna voltage gain versus elevation angle was taken from the manufacturer data sheet (attached) for a single-bay antenna system.
6. The free-space equation was used to determine the distance,  $\rho$ , from the proposed facilities' center of radiation to the maximum allowed interfering field contour at this elevation angle.
7. Radial displacement from the center of radiation,  $\Delta r$ , and vertical displacement from the center of radiation,  $\Delta z$ , were computed.
8. Height of this contour point above ground,  $\Delta h$ , was computed by subtracting  $\Delta z$  from 75.0, the height of the proposed facilities' center of radiation above ground.
9. Steps 5 through 8 were repeated for the complete range of elevation angles, tabulated, and plotted on an elevation diagram.

The following figure depicts the procedure for producing an elevation diagram.



## INTERFERENCE CAUSED TO WRKH

### Protected Station Details

Callsign.....WRKH  
 File Number.....BMLH-20130123AEQ  
 Record Type.....LIC  
 Community of License.....MOBILE, AL  
 Latitude (NAD27).....30-41-20 N  
 Longitude (NAD27).....087-49-49 W  
 Channel.....241C  
 Effective Radiated Power.....77.000 kW  
 Antenna Height above Average Terrain.....535 m

### Analysis

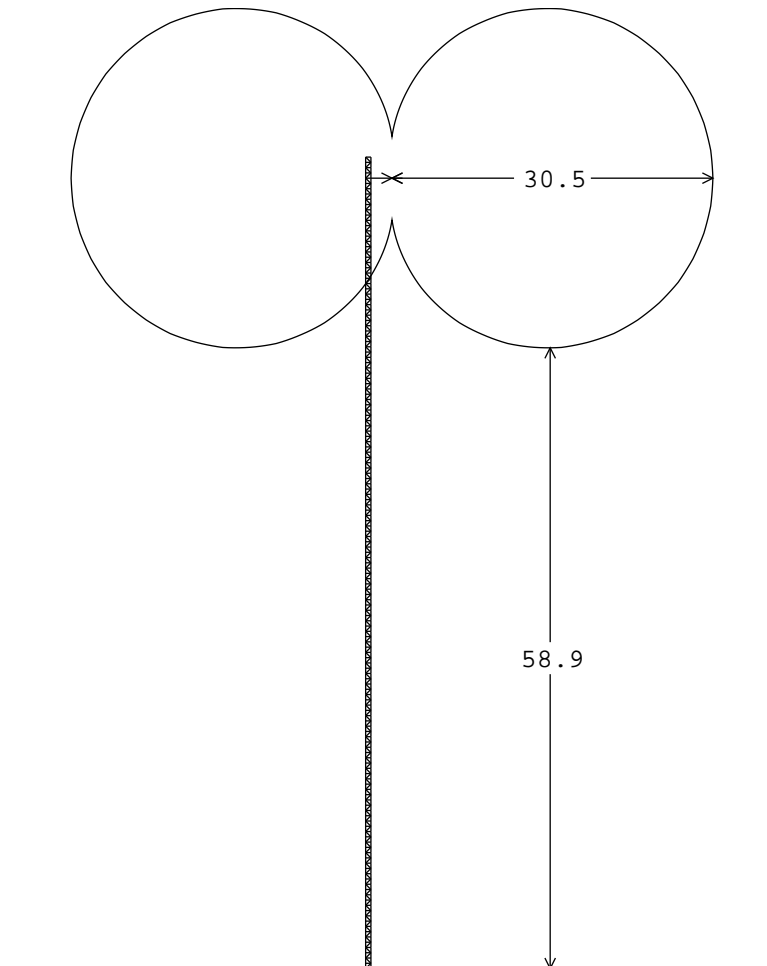
Azimuth from WRKH Transmitter to Proposed Transmitter.....16°  
 WRKH HAAT in direction of Proposed Transmitter.....524.0 m  
 WRKH ERP in direction of Proposed Transmitter.....77.00 kW  
 Distance from WRKH Transmitter to Proposed Transmitter.....20.92 km  
 WRKH F(50,50) Protected Field at Proposed Transmitter.....91.23 dB $\mu$   
 Protection Ratio.....40.00 dB  
 Interfering Contour of Proposed Transmitter.....131.23 dB $\mu$

Elevation Angle [deg]	Antenna Voltage Gain	Effective Radiated Power [W]	Field [dB $\mu$ ]	$\rho$ [m]	$\Delta r$ [m]	$\Delta z$ [m]	$\Delta h$ [m]
0	1.000	250.0	131.23	30.5	30.5	0.0	75.0
-5	0.997	248.5	131.23	30.4	30.2	2.6	72.4
-10	0.987	243.5	131.23	30.1	29.6	5.2	69.8
-15	0.971	235.7	131.23	29.6	28.6	7.7	67.3
-20	0.949	225.2	131.23	28.9	27.2	9.9	65.1
-25	0.919	211.1	131.23	28.0	25.4	11.8	63.2
-30	0.884	195.4	131.23	26.9	23.3	13.5	61.5
-35	0.844	178.1	131.23	25.7	21.1	14.7	60.3
-40	0.796	158.4	131.23	24.2	18.6	15.6	59.4
-45	0.746	139.1	131.23	22.7	16.1	16.1	58.9
-50	0.688	118.3	131.23	21.0	13.5	16.0	59.0
-55	0.629	98.9	131.23	19.2	11.0	15.7	59.3
-60	0.562	79.0	131.23	17.1	8.6	14.8	60.2
-65	0.497	61.8	131.23	15.1	6.4	13.7	61.3
-70	0.425	45.2	131.23	12.9	4.4	12.2	62.8
-75	0.354	31.3	131.23	10.8	2.8	10.4	64.6
-80	0.278	19.3	131.23	8.5	1.5	8.3	66.7
-85	0.204	10.4	131.23	6.2	0.5	6.2	68.8
-90	0.130	4.2	131.23	4.0	0.0	4.0	71.0

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# ANTENNA ELEVATION PATTERN

